

# Maritime Systems Panel Session

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Mr. Scott Littlefield (Lead)

Dr. Arthur Mabbett

Dr. Daniel Patt

CAPT Christopher Warren

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MK 50 Torpedo  
Propulsion System



Sea Shadow



Submarine  
Technology  
(SUBTECH)



Collaborative Networked  
Autonomous Vehicle (CNAV)



Unmanned Undersea  
Vehicle (UUV)



Tango Bravo



# Maritime Systems current programs



## ASW Continuous Trail Unmanned Vessel (ACTUV)



Demonstrate unmanned vehicle's capability to track and monitor a diesel submarine to offload tasks from manned platforms

## Long Range Anti-Ship Missile (LRASM)



Demonstrate an integrated prototype design of a high-effectiveness anti-ship strike capability

## Tactically Expandable Maritime Platform (TEMP)



Develop modular technologies to convert an unmodified commercial containership into a surrogate naval platform

## Tactically Exploited Reconnaissance Node (TERN)



Develop Medium-Altitude, Long-Endurance Unmanned Vehicle (MALE UAV) performance operable from smaller ships



## Objective: Control the sea, influence events on land

### Today's Environment

- Small numbers of well-defended but expensive manned platforms
- Threats and economic interests spread through vast maritime areas of operation: Naval assets spread thin
- Increasing threat from long-range missiles and sophisticated ISR systems
- Insufficient capacity to deliver effects from our most survivable platforms
- Measure/countermeasure cost imbalance favors our adversaries

### Future Vision

- Survivable and highly distributed capability to deliver effects from long distances
- Ability to perform big platform missions without big platforms:
  - Greatly expanded capacity
  - Reduce "brittleness" of the force
  - Flip measure/countermeasure cost imbalance in our favor
- Enhanced situational awareness and threat detection



# Maritime Systems summary



- Order-of-magnitude improvement in key operating parameters of maritime and subsurface vessels (manned and unmanned)
- Sea-based unmanned air vehicles focusing on innovative aero designs and novel launch and recovery of unmanned platforms. Expand operational reach of small ships
- Human operators can effectively perform tasks through remote unmanned systems operations, utilizing minimal data content and communications bandwidth
- Nonlethal approaches to disable maritime platforms that are interspersed with noncombatant surface vessels
- Advanced extended-range, high-speed propulsive agile torpedo engagement with reduced signatures
- Innovations in rail gun, coil gun, light gas gun and advanced cannon technologies
- Technologies that enable novel and cost-effective platform approaches to traditional maritime missions
- Kinetic and nonkinetic defeat of nontraditional threats and high-volume precision engagement against near-peer offensive systems
- Novel technologies that cost-effectively expand and bridge maritime and subsurface platform use with other warfighting domains such as: maritime-to-air, maritime-to-space, subsurface-to-ground combat and subsurface-to-air
- Propulsion technologies that enable new missions or deliver increased power, power density, proficiency and/or an order-of-magnitude increase in key performance parameters (thrust, endurance, top speed and time on target)



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